SAFETY DATA SHEET



Date of issue/Date of revision : 3 July 2024 Version : 11.01

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Product name : SIGMA SAILADVANCE RX REDBROWN

Product code : 00371223

Other means of identification

Not available.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product use : Professional applications, Used by spraying.

Use of the substance/

mixture

: Antifouling products

Uses advised against: Product is not intended, labelled or packaged for consumer use.

1.3 Details of the supplier of the safety data sheet

PPG Coatings Belgium BV/SRL Tweemontstraat 104 B-2100 Deurne Belgium Telephone +32-33606311 Fax +32-33606435

e-mail address of person responsible for this SDS

: Product.Stewardship.EMEA@ppg.com

1.4 Emergency telephone number

National advisory body/Poison Centre

Numéro de téléphone d'appel d'urgence : 01 45 42 59 59 (Association ORFILA, organisme agréé prévu au 4ème alinéa de l'article L231-7 du code du travail)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 3, H226 Acute Tox. 4, H302 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1B, H350 STOT SE 3, H336 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

English (GB) France 1/20

SIGMA SAILADVANCE RX REDBROWN

SECTION 2: Hazards identification

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms











Signal word : Danger

Hazard statements : Flammable liquid and vapour.

Harmful if swallowed.

May cause an allergic skin reaction. Causes serious eye damage. May cause drowsiness or dizziness.

May cause cancer.

Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : Wear protective gloves, protective clothing and eye or face protection. Keep away from

heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid

release to the environment.

: Collect spillage. Response

Storage : Store in a well-ventilated place. Keep container tightly closed.

Disposal Dispose of contents and container in accordance with all local, regional, national and

international regulations.

P280, P210, P273, P391, P403 + P233, P501

Hazardous ingredients : dicopper oxide

Hydrocarbons, C9, aromatics > 0.1% cumene

rosin

4-methylpentan-2-one

zineb (ISO) Oils, pine

p-mentha-1,4(8)-diene

Supplemental label

elements

: Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and

: Restricted to professional users.

articles

Special packaging requirements

Containers to be fitted

with child-resistant

: Not applicable.

fastenings

Tactile warning of danger : Not applicable.

2.3 Other hazards

France 2/20 English (GB)

SIGMA SAILADVANCE RX REDBROWN

SECTION 2: Hazards identification

for PBT or vPvB

Product meets the criteria: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : Prolonged or repeated contact may dry skin and cause irritation.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	% by weight	Classification	Specific Conc. Limits, M-factors and ATEs	Туре
dicopper oxide	REACH #: 01-2119513794-36 EC: 215-270-7 CAS: 1317-39-1 Index: 029-002-00-X	≥25 - ≤50	Acute Tox. 4, H302 Acute Tox. 4, H332 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 500 mg/ kg ATE [Inhalation (dusts and mists)] = 3.34 mg/l M [Acute] = 100 M [Chronic] = 10	[1] [2]
Hydrocarbons, C9, aromatics > 0.1% cumene	REACH #: 01-2119455851-35 EC: 918-668-5 CAS: 128601-23-0	≥10 - ≤15	Flam. Liq. 3, H226 Carc. 1B, H350 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	Carc. 1B, H350: C ≥ 10% EUH066: C ≥ 20%	[1]
rosin	REACH #: 01-2119480418-32 EC: 232-475-7 CAS: 8050-09-7 Index: 650-015-00-7	≥10 - ≤25	Skin Sens. 1, H317	-	[1] [2]
zinc oxide	REACH #: 01-2119463881-32 EC: 215-222-5 CAS: 1314-13-2 Index: 030-013-00-7	≥10 - ≤25	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
4-methylpentan-2-one	REACH #: 01-2119473980-30 EC: 203-550-1 CAS: 108-10-1 Index: 606-004-00-4	≥5.0 - ≤10	Flam. Liq. 2, H225 Acute Tox. 4, H332 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H336 EUH066	ATE [Inhalation (vapours)] = 11 mg/l EUH066: C ≥ 20%	[1] [2]
zineb (ISO)	EC: 235-180-1 CAS: 12122-67-7 Index: 006-078-00-2	≥1.0 - ≤4.6	Skin Sens. 1, H317 STOT SE 3, H335	-	[1]
12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine	REACH #: 01-0000017900-73 EC: 432-840-2 CAS: 220926-97-6 Index: 616-201-00-7	≥0.30 - ≤2.3	Acute Tox. 4, H332 STOT RE 2, H373 (lungs) (inhalation) Aquatic Chronic 4, H413	ATE [Inhalation (dusts and mists)] = 3.56 mg/l	[1]

English (GB) **France** 3/20 Code : 00371223 Date of issue/Date of revision : 3 July 2024 SIGMA SAILADVANCE RX REDBROWN

SECTION 3: Composition/information on ingredients

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Oils, pine	CAS: 8002-09-3	<1.0	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	-	[1]
copper(II) oxide	REACH #: 01-2119502447-44 EC: 215-269-1 CAS: 1317-38-0 Index: 029-016-00-6	≤1.0	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 100 M [Chronic] = 10	[1]
copper	REACH #: 01-2119480154-42 EC: 231-159-6 CAS: 7440-50-8	≤0.30	Aquatic Acute 1, H400 Aquatic Chronic 3, H412	M [Acute] = 1	[1]
p-mentha-1,4(8)-diene	REACH #: 01-2119982325-32 EC: 209-578-0 CAS: 586-62-9	≤0.30	Flam. Liq. 3, H226 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 See Section 16 for the full text of the H statements declared above.	M [Acute] = 1 M [Chronic] = 1	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

Skin contact

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

SUB codes represent substances without registered CAS Numbers.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is

irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

: If swallowed, seek medical advice immediately and show the container or label. Keep

Ingestion person warm and at rest. Do NOT induce vomiting. **Protection of first-aiders**

: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

English (GB)	France	4/20

SIGMA SAILADVANCE RX REDBROWN

SECTION 4: First aid measures

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or

dizziness.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin

reaction.

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following:

pain watering redness

Inhalation : Adverse symptoms may include the following:

nausea or vomiting

headache

drowsiness/fatigue dizziness/vertigo unconsciousness

Skin contact: Adverse symptoms may include the following:

pain or irritation

redness dryness cracking

blistering may occur

Ingestion : Adverse symptoms may include the following:

stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed.

The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments: No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing

media

: Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing

media

: Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture

: Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion

products

: Decomposition products may include the following materials:

carbon oxides nitrogen oxides sulfur oxides

halogenated compounds metal oxide/oxides

English (GB) France 5/20

SIGMA SAILADVANCE RX REDBROWN

SECTION 5: Firefighting measures

5.3 Advice for firefighters

Special precautions for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

Small spill

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with noncombustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections

: See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

English (GB)	France	6/20
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SIGMA SAILADVANCE RX REDBROWN

SECTION 7: Handling and storage

Protective measures

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

: Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

See Section 1.2 for Identified uses.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Exposure limit values
Ministry of Labor (France, 9/2023). [cuivre (fumées)]
TWA: 0.2 mg/m ³ 8 hours. Form: Fume
Ministry of Labor (France, 9/2023).
TWA: 0.1 mg/m³, (expressed as formaldehyde) 8 hours.
Ministry of Labor (France, 9/2023).
STEL: 208 mg/m ³ 15 minutes. Form: Risk for sensitisation
STEL: 50 ppm 15 minutes. Form: Risk for sensitisation
TWA: 83 mg/m ³ 8 hours. Form: Risk for sensitisation
TWA: 20 ppm 8 hours. Form: Risk for sensitisation

English (GB) France 7/20

SIGMA SAILADVANCE RX REDBROWN

SECTION 8: Exposure controls/personal protection

Recommended monitoring procedures

: Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs

Product/ingredient name	Туре	Exposure	Value	Population	Effects
Hydrocarbons, C9, aromatics	DNEL DNEL DNEL DNEL DNEL DNEL	Long term Inhalation Long term Inhalation Long term Dermal Long term Oral Short term Oral Long term Inhalation	1 mg/m³ 1 mg/m³ 137 mg/kg bw/day 0.041 mg/kg bw/day 0.082 mg/kg bw/day 150 mg/m³	Workers Workers Workers General population General population Workers	Local Systemic Systemic Systemic Systemic Systemic
> 0.1% cumene	DNEL DNEL DNEL DNEL	Long term Dermal Long term Inhalation Long term Dermal Long term Oral	25 mg/kg bw/day 32 mg/m³ 11 mg/kg bw/day 11 mg/kg bw/day	Workers General population General population General population	Systemic Systemic Systemic Systemic
4-methylpentan-2-one	DNEL DNEL DNEL DNEL DNEL DNEL DNEL DNEL	Long term Dermal Long term Dermal Long term Inhalation Long term Inhalation Long term Inhalation Long term Inhalation Short term Inhalation Short term Inhalation Short term Inhalation Short term Inhalation Long term Inhalation Long term Oral	4.2 mg/kg bw/day 11.8 mg/kg bw/day 14.7 mg/m³ 14.7 mg/m³ 83 mg/m³ 83 mg/m³ 155.2 mg/m³ 155.2 mg/m³ 208 mg/m³ 208 mg/m³ 4.2 mg/kg bw/day	General population Workers General population General population Workers Workers General population General population Workers Workers Workers General population Workers Workers	Systemic Systemic Local Systemic Local Systemic
12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine	DNEL	Long term Inhalation	82.5 μg/m³	General population	Local
copper(II) oxide	DNEL DNEL DNEL DNEL DNEL	Long term Inhalation Short term Inhalation Short term Inhalation Long term Inhalation Long term Inhalation Long term Dermal	332 µg/m³ 25.7 mg/m³ 51.3 mg/m³ 1 mg/m³ 1 mg/m³ 137 mg/kg bw/day	Workers General population Workers Workers Workers Workers	Local Local Local Local Systemic Systemic
copper	DNEL DNEL DNEL DNEL DNEL DNEL	Long term Oral Short term Oral Long term Dermal Long term Dermal Short term Dermal Short term Dermal	0.041 mg/kg bw/day 0.082 mg/kg bw/day 137 mg/kg bw/day 137 mg/kg bw/day 273 mg/kg bw/day 273 mg/kg bw/day	General population General population General population Workers General population Workers	Systemic Systemic Systemic Systemic Systemic Systemic
p-mentha-1,4(8)-diene	DNEL DNEL DNEL DNEL DNEL DNEL DNEL	Long term Dermal Long term Dermal Long term Oral Long term Dermal Long term Dermal Long term Inhalation Long term Inhalation	0.044 mg/cm² skin 44 μg/cm² 0.26 mg/kg bw/day 0.26 mg/kg bw/day 0.52 mg/kg bw/day 0.9 mg/m³ 3.6 mg/m³	Workers Workers General population General population Workers General population Workers	Local Local Systemic Systemic Systemic Systemic Systemic Systemic Systemic

English (GB) France 8/20

SIGMA SAILADVANCE RX REDBROWN

SECTION 8: Exposure controls/personal protection

PNECs

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
dicopper oxide	er oxide - Fresh water		0.0078 mg/l	-
	-	Fresh water sediment	87.1 mg/kg dwt	-
	-	Marine water	0.0056 mg/l	-
	-	Marine water sediment	676 mg/kg dwt	-
	-	Soil	64.6 mg/kg dwt	-
	-	Sewage Treatment Plant		-
rosin	-	Fresh water	0.002 mg/l	Assessment Factors
	-	Marine water	0 mg/l	Assessment Factors
	-	Sewage Treatment Plant	1000 mg/l	Assessment Factors
	-	Fresh water sediment	0.007 mg/kg dwt	Equilibrium Partitioning
	-	Marine water sediment	0.001 mg/kg dwt	Equilibrium Partitioning
	-	Soil	0 mg/kg dwt	Equilibrium Partitioning
zinc oxide	-	Fresh water	20.6 µg/l	Sensitivity Distribution
	-	Marine water	6.1 µg/l	Sensitivity Distribution
	-	Fresh water sediment	117 mg/kg dwt	Sensitivity Distribution
	-	Sewage Treatment Plant	52 μg/l	Assessment Factors
	-	Marine water sediment	56.5 mg/kg dwt	Assessment Factors
	-	Soil	35.6 mg/kg dwt	Sensitivity Distribution
4-methylpentan-2-one	-	Fresh water	0.6 mg/l	Assessment Factors
	-	Marine water	0.06 mg/l	Assessment Factors
	-	Sewage Treatment Plant	27.5 mg/l	Assessment Factors
	-	Fresh water sediment	8.27 mg/kg	Equilibrium Partitioning
	-	Marine water sediment	0.83 mg/kg	Equilibrium Partitioning
	-	Soil	1.3 mg/kg	Equilibrium Partitioning
p-mentha-1,4(8)-diene	-	Fresh water	0.634 µg/l	Assessment Factors
	-	Marine water	0.063 µg/l	Assessment Factors
	-	Sewage Treatment Plant		Assessment Factors
	-	Fresh water sediment	147 µg/kg dwt	Equilibrium Partitioning
	-	Marine water sediment	14.7 µg/kg dwt	Equilibrium Partitioning
	-	Soil	29.1 µg/kg dwt	Equilibrium Partitioning

8.2 Exposure controls

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection
Skin protection

: Chemical splash goggles and face shield. Use eye protection according to EN 166.

Hand protection :

English (GB) France 9/20

SIGMA SAILADVANCE RX REDBROWN

SECTION 8: Exposure controls/personal protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Gloves : butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task

being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear antistatic protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by

a specialist before handling this product.

Respiratory protection: Respirator selection must be based on known or anticipated exposure levels, the

hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Wear a respirator conforming to EN140. Filter type: organic vapour (Type A) and

particulate filter P3

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Colour : Brownish-red.

Odour : Characteristic.

Odour threshold : Not available.

Melting point/freezing point : May start to solidify at the following temperature: -43.77°C (-46.8°F) This is based

on data for the following ingredient: 1,2,4-trimethylbenzene. Weighted average:

-70.44°C (-94.8°F)

Initial boiling point and

boiling range

: >37.78°C

Flammability : Not available.

English (GB) France 10/20

SIGMA SAILADVANCE RX REDBROWN

SECTION 9: Physical and chemical properties

Upper/lower flammability or explosive limits

: Greatest known range: Lower: 1.4% Upper: 7.6% (Solvent naphtha (petroleum),

light aromatic)

Flash point : Closed cup: 34°C

Auto-ignition temperature

Ingredient name	°C	°F	Method
zińeb (ISO)	149	300.2	

Decomposition temperature

: Stable under recommended storage and handling conditions (see Section 7).

: 1

Not applicable. insoluble in water.
Kinematic (40°C): >21 mm²/s

Solubility(ies)

:

Media	Result
cold water	Not soluble

Partition coefficient: n-octanol/ : Not applicable.

water

pН

Viscosity

Vapour pressure :

	Vapour Pressure at 20°C			Vapour pressure at 50°		re at 50°C
Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method
methylpentan-2-one	15.75128	2.1				

Evaporation rate : Highest known value: 1.7 (4-methylpentan-2-one) Weighted average:

1.61compared with butyl acetate

Relative density

Vapour density : Highest known value: 4.1 (Air = 1) (1,2,4-trimethylbenzene). Weighted average:

3.67 (Air = 1)

: 1.67

Explosive properties : The product itself is not explosive, but the formation of an explosible mixture of

vapour or dust with air is possible.

Oxidising properties

: Product does not present an oxidizing hazard.

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.

Refer to protective measures listed in sections 7 and 8.

10.5 Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions:

oxidising agents, strong alkalis, strong acids.

English (GB) France 11/20

Code : 00371223 Date of issue/Date of revision : 3 July 2024

SIGMA SAILADVANCE RX REDBROWN

SECTION 10: Stability and reactivity

10.6 Hazardous decomposition products

: Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008 <u>Acute toxicity</u>

Product/ingredient name	Result	Species	Dose	Exposure
dicopper oxide	LC50 Inhalation Dusts and	Rat	3.34 mg/l	4 hours
	mists LD50 Dermal	Det	> 2000 //	
		Rat	>2000 mg/kg	-
Herbert of the Control of the Contro	LD50 Oral	Rat	500 mg/kg	-
Hydrocarbons, C9, aromatics > 0.1% cumene	LD50 Dermal	Rabbit	>3160 mg/kg	-
	LD50 Oral	Rat - Female	3492 mg/kg	-
i-	LDEO Darras el		> 0000 //-	
rosin	LD50 Dermal	Rat	>2000 mg/kg	-
-1	LD50 Oral	Rat	7600 mg/kg	4 1
zinc oxide	LC50 Inhalation Dusts and mists	Rat	>5700 mg/m ³	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	_
4-methylpentan-2-one	LC50 Inhalation Vapour	Rat	11 mg/l	4 hours
•	LD50 Dermal	Rabbit	>5000 mg/kg	_
	LD50 Oral	Rat	2.08 g/kg	_
zineb (ISO)	LD50 Oral	Rat	>2000 mg/kg	_
12-hydroxyoctadecanoic acid, reaction	LC50 Inhalation Dusts and	Rat	3.56 mg/l	4 hours
products with 1,3-benzenedimethanamine	mists		and mg.	
and hexamethylenediamine	LDEO Darras el	Det	> 0000 //-	
	LD50 Dermal	Rat	>2000 mg/kg	-
0.11	LD50 Oral	Rat	>2000 mg/kg	-
Oils, pine	LD50 Dermal	Rabbit	5 g/kg	-
4	LD50 Oral	Rat	2.1 g/kg	-
copper(II) oxide	LD50 Oral	Rat	>2000 mg/kg	-
copper	LC50 Inhalation Dusts and	Rat	>5.11 mg/l	4 hours
	mists			
p-mentha-1,4(8)-diene	LD50 Oral	Rat	4390 mg/kg	-

Conclusion/Summary

: There are no data available on the mixture itself.

Acute toxicity estimates

Route	ATE value	
Oral	1750.3 mg/kg	
Inhalation (vapours)	126.63 mg/l	
Inhalation (dusts and mists)	11.3 mg/l	

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.
 Eyes : There are no data available on the mixture itself.
 Respiratory : There are no data available on the mixture itself.

Sensitisation

English (GB)	France	12/20

Code : 00371223 Date of issue/Date of revision : 3 July 2024

SIGMA SAILADVANCE RX REDBROWN

SECTION 11: Toxicological information

Product/ingredient name	Route of exposure	Species	Result
z∕neb (ISO)	skin	Guinea pig	Sensitising

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary: There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary: There are no data available on the mixture itself.

Reproductive toxicity

Conclusion/Summary: There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary: There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Hydrocarbons, C9, aromatics > 0.1% cumene	Category 3 Category 3		Respiratory tract irritation Narcotic effects
4-methylpentan-2-one zineb (ISO)	Category 3 Category 3		Narcotic effects Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine	Category 2	inhalation	lungs

Aspiration hazard

Product/ingredient name	Result
Hydrocarbons, C9, aromatics > 0.1% cumene	ASPIRATION HAZARD - Category 1
Oils, pine	ASPIRATION HAZARD - Category 1
p-mentha-1,4(8)-diene	ASPIRATION HAZARD - Category 1

Information on likely routes of exposure

: Not available.

Detected a costa baselika

Potential acute health effects

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or

dizziness.

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression.

Skin contact: Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin

reaction.

Eye contact : Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

English (GB) France 13/20

SIGMA SAILADVANCE RX REDBROWN

SECTION 11: Toxicological information

Inhalation : Adverse symptoms may include the following:

nausea or vomiting

headache

drowsiness/fatigue dizziness/vertigo unconsciousness

Ingestion: Adverse symptoms may include the following:

stomach pains

Skin contact: Adverse symptoms may include the following:

pain or irritation

redness dryness cracking

blistering may occur

Eye contact: Adverse symptoms may include the following:

pain watering redness

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate

effects

: Not available.

Potential delayed effects: Not available.

Long term exposure

Potential immediate

effects

: Not available.

Potential delayed effects: Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General: Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or

dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently

exposed to very low levels.

Carcinogenicity: May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.Reproductive toxicity : No known significant effects or critical hazards.

Other information : Not available.

Prolonged or repeated contact may dry skin and cause irritation. Sanding and grinding dusts may be harmful if inhaled. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapour/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

English (GB) France 14/20

SIGMA SAILADVANCE RX REDBROWN

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
dicopper oxide	LC50 0.003 mg/l	Fish	96 hours
Hydrocarbons, C9, aromatics > 0.1% cumene	EC50 3.2 mg/l	Daphnia	48 hours
	LC50 9.2 mg/l	Fish	96 hours
zinc oxide	Acute EC50 0.17 mg/l	Algae	72 hours
	Acute EC50 0.481 mg/l	Daphnia - <i>Daphnia</i>	48 hours
	Fresh water	magna - Neonate	
	Chronic NOEC 0.017 mg/l	Algae	72 hours
	Fresh water		
4-methylpentan-2-one	Acute LC50 >179 mg/l	Fish	96 hours
12-hydroxyoctadecanoic acid, reaction products	Acute EC50 >100 mg/l	Algae -	72 hours
with 1,3-benzenedimethanamine and		Pseudokirchneriella	
hexamethylenediamine		subcapitata	
		(microalgae)	
	Acute EC50 >100 mg/l	Daphnia - <i>Daphnia</i>	48 hours
		magna (Water flea)	
	Acute LC50 >100 mg/l	Fish - Oncorhynchus	96 hours
		mykiss (rainbow	
		trout)	
	Chronic NOEC 100 mg/l	Algae -	72 hours
		Pseudokirchneriella	
		subcapitata	
	Chronic NOEC ≥50 mg/l	Daphnia - Daphnia	21 days
		magna (Water flea)	
copper	Acute LC50 810 ppb	Fish	96 hours
	Chronic EC10 8.1 µg/l	Daphnia - <i>Daphnia</i>	21 days
		magna - Neonate	

Conclusion/Summary

: There are no data available on the mixture itself.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Hydrocarbons, C9, aromatics > 0.1% cumene 4-methylpentan-2-one 12-hydroxyoctadecanoic acid, reaction products with	OECD 301F OECD 301D Ready	75 % - Readily - 28 days 83 % - Readily - 28 days 9 % - Not readily - 29 days	-	-
1,3-benzenedimethanamine and hexamethylenediamine	Biodegradability - Closed Bottle Test			

Conclusion/Summary: There are no data available on the mixture itself.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hydrocarbons, C9, aromatics > 0.1% cumene	-	-	Readily
4-methylpentan-2-one	-	-	Readily

12.3 Bioaccumulative potential

English (GB)	France	15/20

Code : 00371223 Date of issue/Date of revision : 3 July 2024

SIGMA SAILADVANCE RX REDBROWN

SECTION 12: Ecological information

Product/ingredient name	LogPow	BCF	Potential
rosin	1.9 to 7.7	-	High
4-methylpentan-2-one	1.9	-	Low
zineb (ISO)	1.3	-	Low
12-hydroxyoctadecanoic acid, reaction products	>6	-	High
with 1,3-benzenedimethanamine and			
hexamethylenediamine			
p-mentha-1,4(8)-diene	4.47	-	High

12.4 Mobility in soil

Soil/water partition

: Not available.

coefficient (Koc)

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal

: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste :

European waste catalogue (EWC)

Waste code	Waste designation
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

Packaging

Methods of disposal

: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Type of packaging		European waste catalogue (EWC)
Container	15 01 06	mixed packaging

English (GB)	France	16/20
Liigiisii (OD)	i idilee	10/20

SIGMA SAILADVANCE RX REDBROWN

SECTION 13: Disposal considerations

Special precautions

: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14. Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN1263	UN1263	UN1263	UN1263
14.2 UN proper shipping name	PAINT	PAINT	PAINT	PAINT
14.3 Transport hazard class(es)	3	3	3	3
14.4 Packing group	III	III	III	=
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Marine pollutant substances	Not applicable.	Not applicable.	(dicopper oxide)	Not applicable.

Additional information

ADR/RID : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or

≤5 kg.

Tunnel code : (D/E)

ADN The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

: The environmentally hazardous substance mark may appear if required by other transportation IATA

regulations.

user

14.6 Special precautions for : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in

the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO

instruments

: Not applicable.

English (GB) **France** 17/20

SIGMA SAILADVANCE RX REDBROWN

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions : Restricted to professional users.

on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Explosive precursors : Not applicable.

Ozone depleting substances (1005/2009/EU)

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category	
P5c	
E1	

National regulations

Product/ingredient name	List name	Name on list	Classification	Notes
4-methylpentan-2-one	France Occupational Exposure Limits	méthylisobutylcétone; 4-méthyl-2-pentanone	Carc. C2	-
Social Security Code, Articles L 461-1 to L 461-7	Hydrocarbons, C9, aromatics > 0.1% cumene		RG 4Bis, RC 84	G [1]
	Rosin		RG 65, RG 6	66

4-methylpentan-2-one RG 84 p-mentha-1,4(8)-diene RG 84 Surveillance médicale spéciale selon l'arrêté du 11 juillet 1977:

[1] Benzène et homologues Pour les applications des peintures et vernis par pulvérisation

Reinforced medical surveillance

: Act of July 11, 1977 determining the list of activities which require reinforced medical surveillance: not applicable

References

: Reinforced medical surveillance; Decree no. 2001-97 of 1 February 2001 establishing specific rules for the prevention of risks from carcinogens, mutagens and reprotoxics and amending the Labour code; Decree no. 2003-1254 of 23 December 2003 relating to prevention of chemical risks and amending the Labour code; Decree no. 2004-187 of 26 February 2004 on the placing on the market of biocidal products; Decree no. 88-1231 of 29/12/1988 relating to poisonous preparations and substances.; Decree no. 95-517 of 15 May 1997, relating to the classification of dangerous waste.; Labour code article: R231-53; Labour code: Occupational air (ventilation, air purification): Art. R 232-5 to R 232-5-14; Labour code: Prevention of chemical risk: Art.R231-51 and R 231-54 to R 231-54-9; Labour code: Prevention of fires: Art.R232-12-13 to R 232-12-29 and R 233-30; Labour code: provisions applicable to women: Art. L 234-3 to L 236-6; Art: Labour code: provisions applicable to young workers: Art. L 234-3 to L 236-6; Art:

English (GB) France 18/20

SIGMA SAILADVANCE RX REDBROWN

SECTION 15: Regulatory information

R234-16 ; Labour code: Sanitary installations: Art. R 232-2 à R 232-2-7 ; Law 76-663 of 19 July 1976 amending and implementing decree of 21 September 1977 relating to classified installations for the protection of the environment ; Tables of anticipated professional diseases according to article R461-3 of the labour code

15.2 Chemical safety assessment

: No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement

PNEC = Predicted No Effect Concentration

RRN = REACH Registration Number

PBT = Persistent, Bioaccumulative and Toxic

vPvB = Very Persistent and Very Bioaccumulative

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

IMDG = International Maritime Dangerous Goods

IATA = International Air Transport Association

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 3, H226	On basis of test data
Acute Tox. 4, H302	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method
Carc. 1B, H350	Calculation method
STOT SE 3, H336	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	Calculation method

Full text of abbreviated H statements

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H350	May cause cancer.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated
	exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

English (GB) France 19/20

Code : 00371223 SIGMA SAILADVANCE RX REDBROWN	Date of issue/Date of revision : 3 July 2024	
SECTION 16: Other information		
H413 EUH066	May cause long lasting harmful effects to aquatic life. Repeated exposure may cause skin dryness or cracking.	

Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Aquatic Chronic 4	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Carc. 1B	CARCINOGENICITY - Category 1B
Carc. 2	CARCINOGENICITY - Category 2
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE -
	Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE -
	Category 3

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Disclaimer

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English (GB) France 20/20